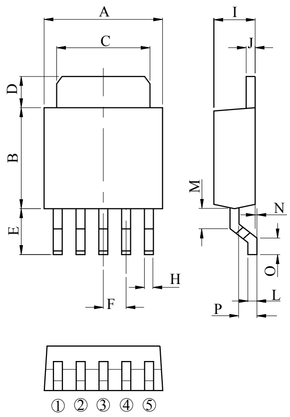
5 TERMINAL LOW DROP VOLTAGE REGULATOR

The KIA78R×× Series are Low Drop Voltage Regulator suitable for various electronic equipments.
It provides constant voltage power source with DPAK-5 terminal surface mount type PKG.
The Regulator has multi function such as over current protection, overheat protection and ON/OFF control.

FEATURES

· 1.0A Output Low Drop Voltage Regulator.
· Built in ON/OFF Control Terminal.
· Built in Over Current Protection, Over Heat Protection Function.



DIM	MILLIMETERS
A	6.6±0.2
B	6.1±0.2
C	5.0±0.2
D	1.10±0.2
E	2.70±0.2
F	1.27±0.1
H	0.5+0.2/-0.1
I	2.30±0.2
J	0.5±0.1
L	0.50±0.1
M	0.8±0.2
N	0~0.25
O	0.7MIN
P	1.00±0.1

① DC INPUT (V_{IN})
② ON/OFF CONTROL (V_C)
③ DC OUTPUT (V_O)
④ N.C
⑤ GND

DPAK-5

LINE UP

ITEM	OUTPUT VOLTAGE (Typ.)	UNIT
KIA78R05F	5	V
KIA78R06F	6	
KIA78R08F	8	
KIA78R09F	9	
KIA78R10F	10	
KIA78R12F	12	
KIA78R15F	15	

MAXIMUM RATINGS (Ta=25 ℃)

CHARACTERISTIC	SYMBOL	RATING	UNIT	REMARK
Input Voltage	V_{IN}	35	V	-
ON/OFF Control Voltage	V_C	35	V	-
Output Current	I_O	1	A	-
Power Dissipation 1	P_d	8	W	Infinite heat sink
Junction Temperature	T_j	125	℃	-
Operating Temperature	T_{opr}	-20～80	℃	-
Storage Temperature	T_{stg}	-30～125	℃	-
Soldering Temperature (10sec)	T_{sol}	260	℃	-

ELECTRICAL CHARACTERISTICS
(Unless otherwise specified, I_O=0.5A, Ta=25℃, Note1.)

CHARACTERISTIC		SYMBOL	CONDITIONS	MIN.	TYP.	MAX.	UNIT
Output Voltage	KIA78R05	V_O	-	4.88	5.0	5.12	V
	KIA78R06		-	5.85	6.0	6.15	
	KIA78R08		-	7.80	8.0	8.2	
	KIA78R09		-	8.78	9.0	9.22	
	KIA78R10		-	9.75	10.0	10.25	
	KIA78R12		-	11.70	12.0	12.30	
	KIA78R15		-	14.70	15.0	15.30	
Load Regulation		Reg Load	I_O=5mA～1A	-	0.1	2.0	%
Line Regulation		Reg Line	(Note 2)	-	0.5	2.5	%
Ripple Rejection		R · R		45	55	-	dB
Drop Out Voltage		V_D	(Note 3)	-	-	0.5	V
Output ON state for control Voltage		$V_{C(ON)}$		2.0	-	-	V
Output ON state for control Current		$I_{C(ON)}$	V_C=2.7V	-	-	20	μA
Output OFF state for control Voltage		$V_{C(OFF)}$	-	-	-	0.8	V
Output OFF state for control Current		$I_{C(OFF)}$	V_C=0.4V	-	-	-0.4	mA
Quiescent Current		I_Q	I_O=0	-	-	10	mA

Note1) V_{IN} of KIA78R05=7V
" KIA78R06=8V
" KIA78R08=10V
" KIA78R09=15V
" KIA78R10=16V
" KIA78R12=18V
" KIA78R15=21V

Note2) V_{IN} of KIA78R05=6～12V
" KIA78R06=7～15V
" KIA78R08=9～25V
" KIA78R09=10～25V
" KIA78R10=11～26V
" KIA78R12=13～29V
" KIA78R15=16～32V

Note3) At V_{IN}=0.95V_O

BLOCK DIAGRAM

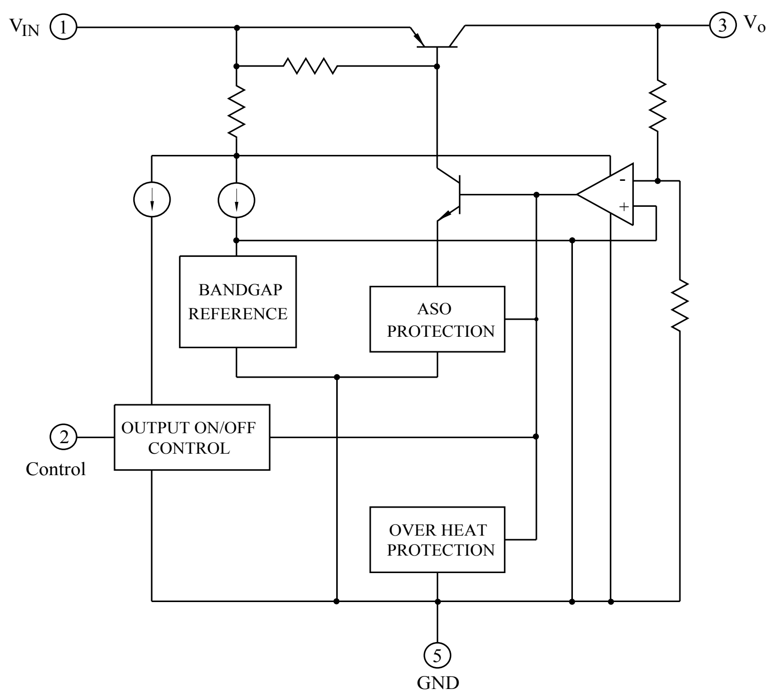


Fig. 1 Standard Test Circuit

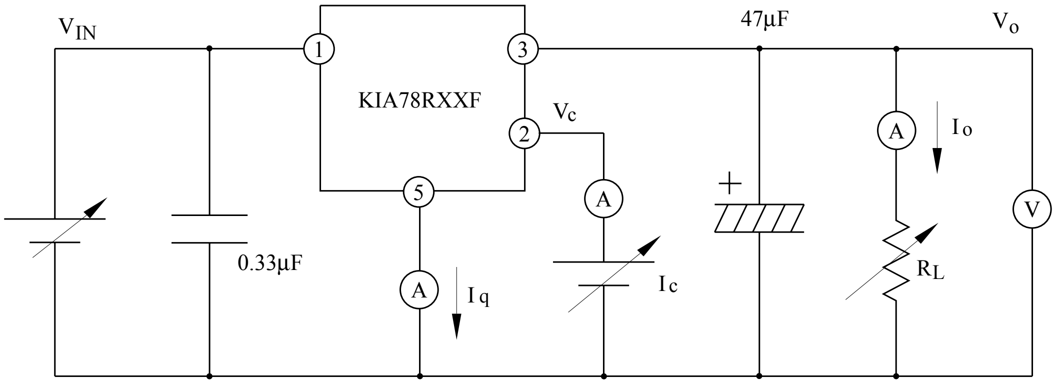
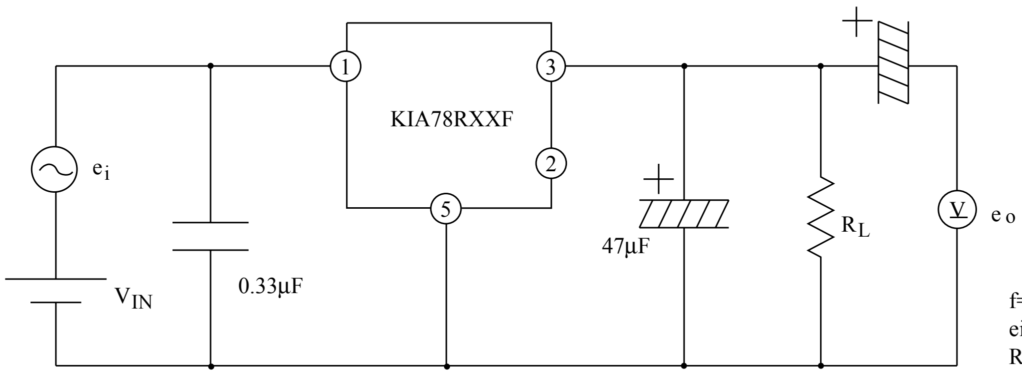
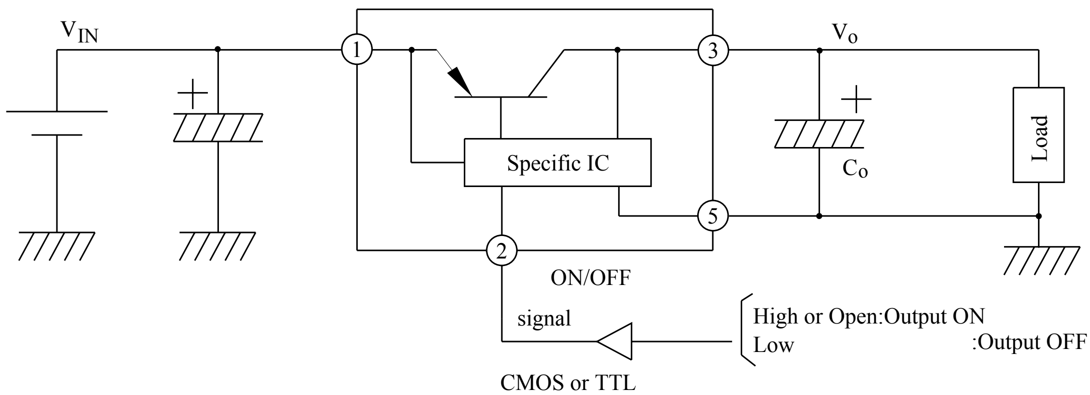


Fig. 1-2 Ripple Rejection Test Circuit



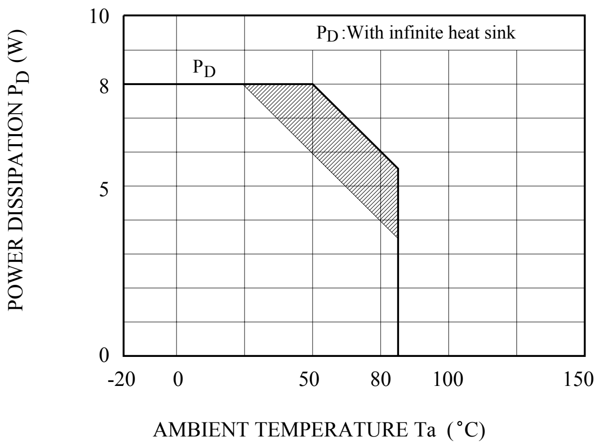
f=120Hz(sine wave)
ei=0.5Vrms
RR=20log(ei/eo)

Fig. 2 Application Circuit for Standard



High or Open:Output ON
Low :Output OFF

Fig.3 Ta - P_D



Note) Oblique line portion : Overheat protection may operate in this area.

Fig.4 I_O - V_O

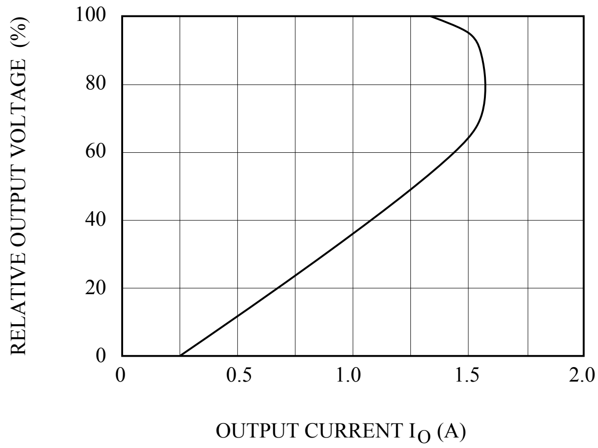


Fig.5-1 T_j - ΔV_o (KIA78R05)

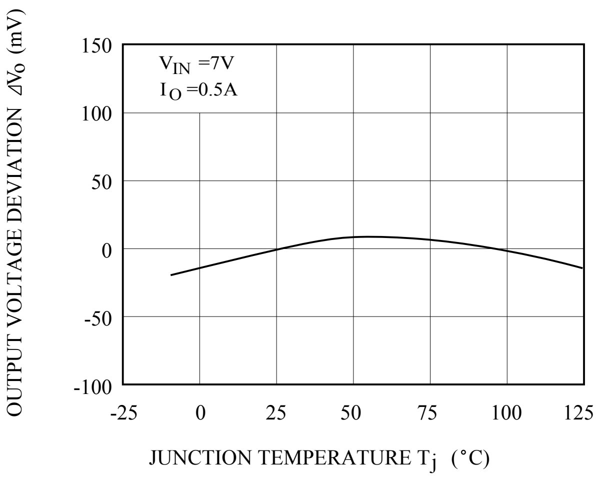


Fig.5-2 T_j - ΔV_o (KIA78R06)

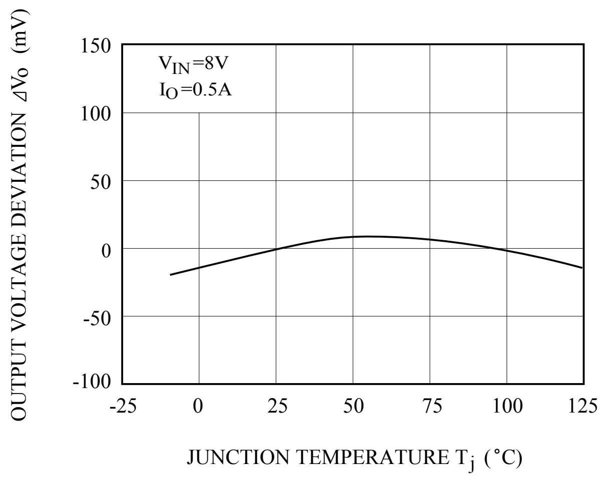


Fig.5-3 T_j - ΔV_o (KIA78R08)

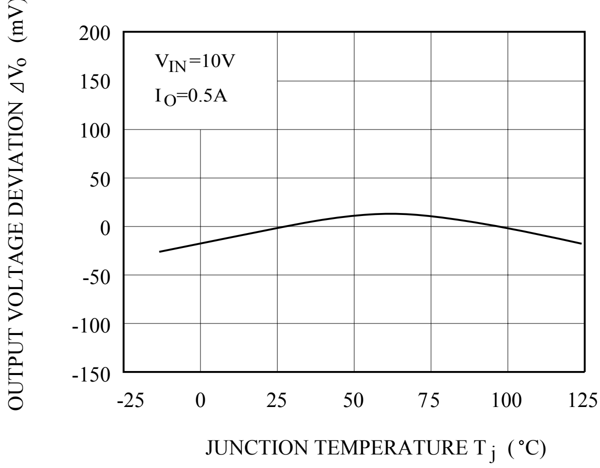


Fig.5-4 T_j - ΔV_o (KIA78R09)

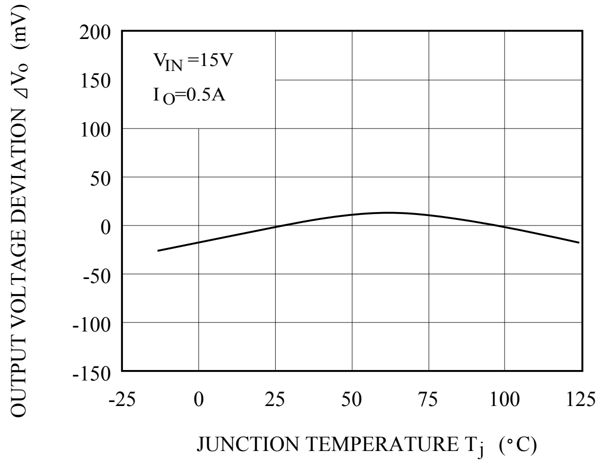


Fig.5-5 T_j - $\varDelta V_o$ (KIA78R10)

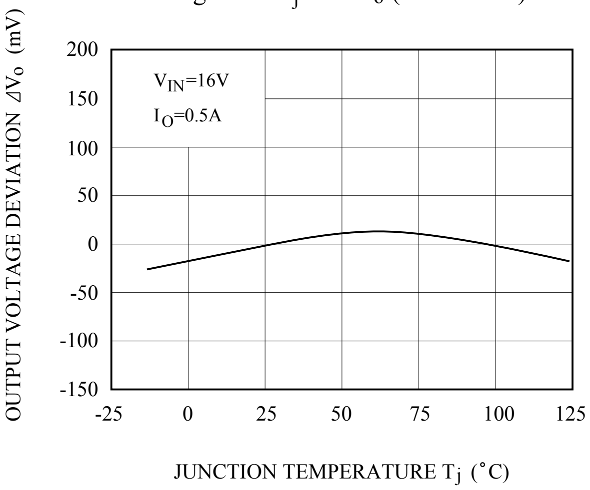


Fig.5-6 T_j - $\varDelta V_o$ (KIA78R12)

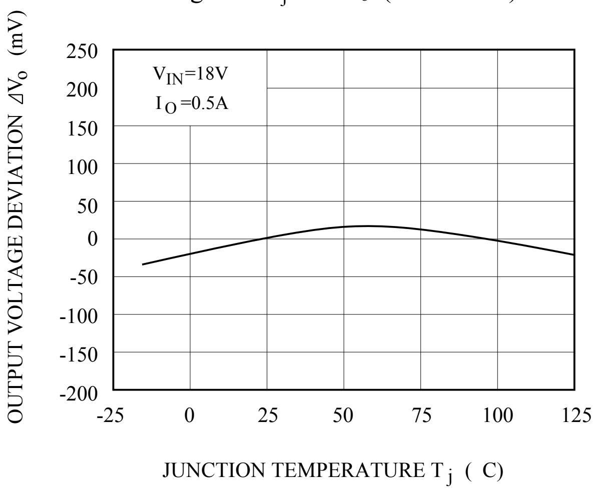


Fig.5-7 T_j - $\varDelta V_o$ (KIA78R15)

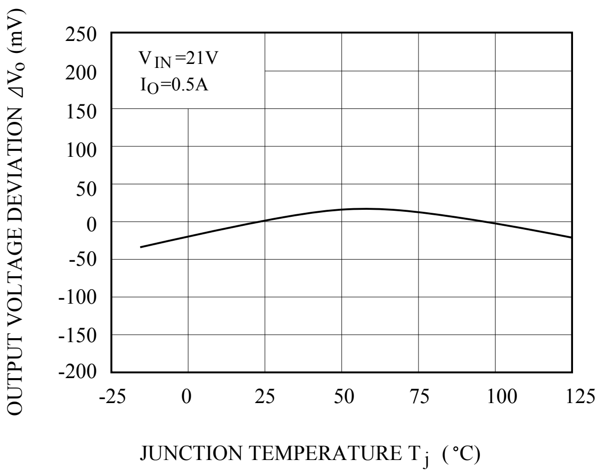


Fig.6-1 V_{IN} - V_o (KIA78R05)

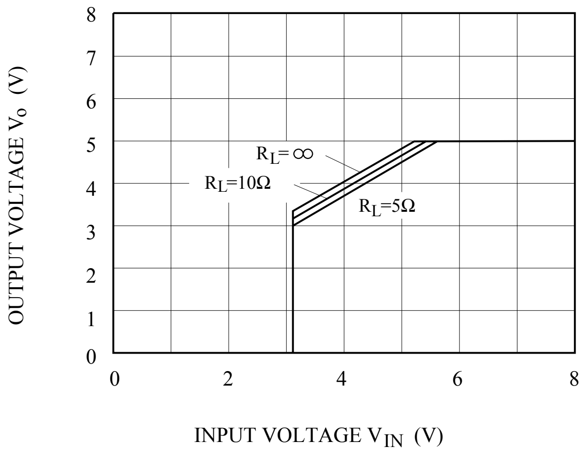


Fig.6-2 V_{IN} - V_o (KIA78R06)

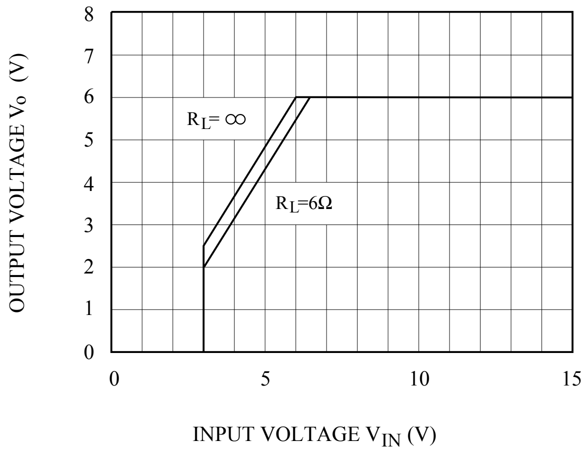


Fig.6-3 V_{IN} - V_o (KIA78R08)

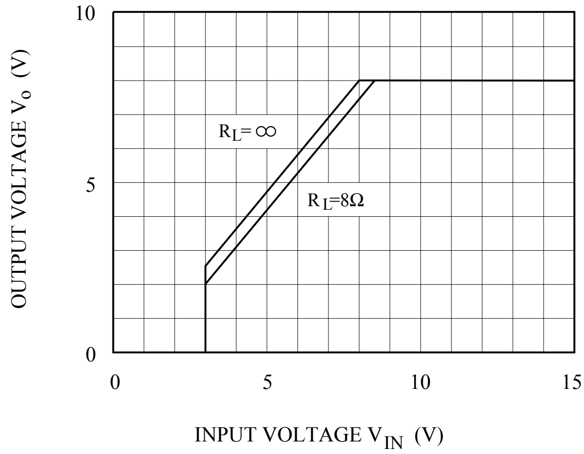


Fig.6-4 V_{IN} - V_o (KIA78R09)

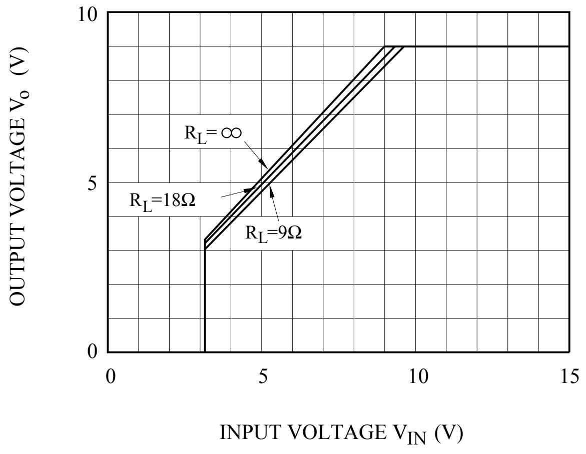


Fig.6-5 V_{IN} - V_o (KIA78R10)

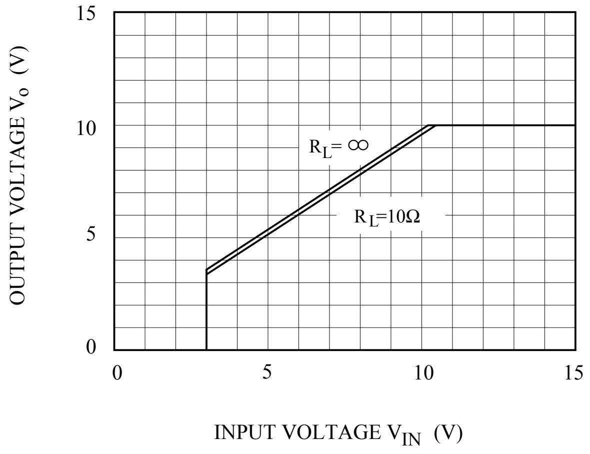


Fig.6-6 V_{IN} - V_O (KIA78R12)

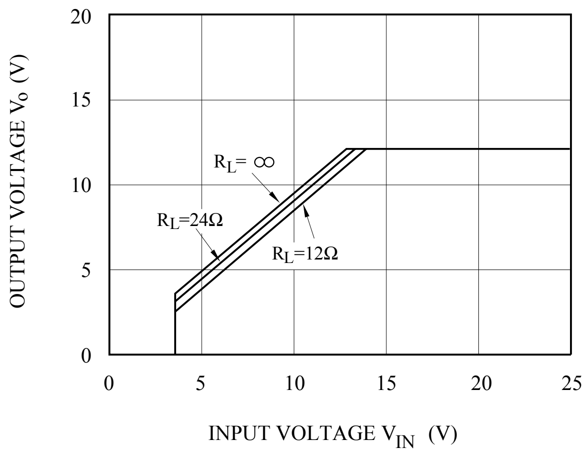


Fig.6-7 V_{IN} - V_O (KIA78R15)

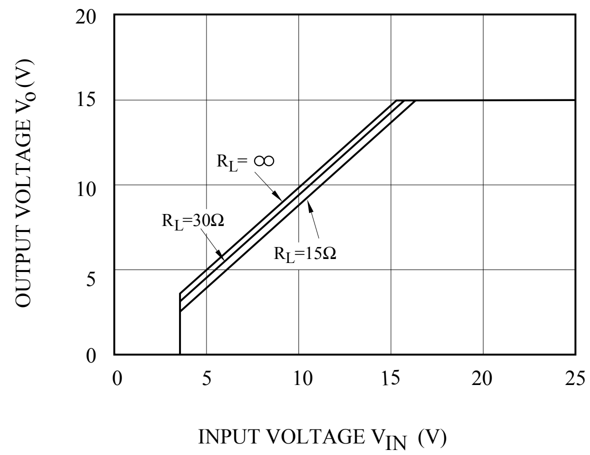


Fig.7-1 V_{IN} - I_{BIAS} (KIA78R05)

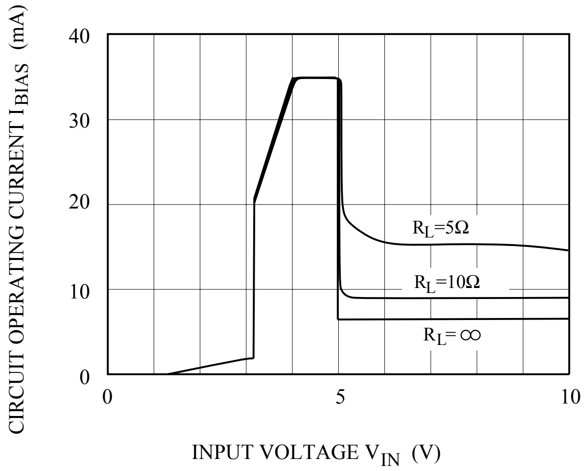


Fig.7-2 V_{IN} - I_{BIAS} (KIA78R06)

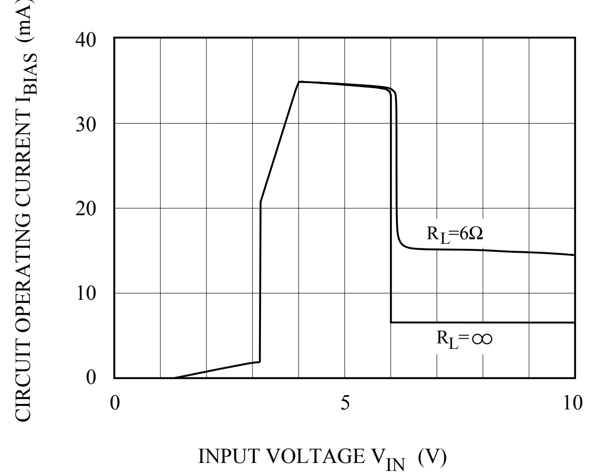


Fig.7-3 V_{IN} - I_{BIAS} (KIA78R08)

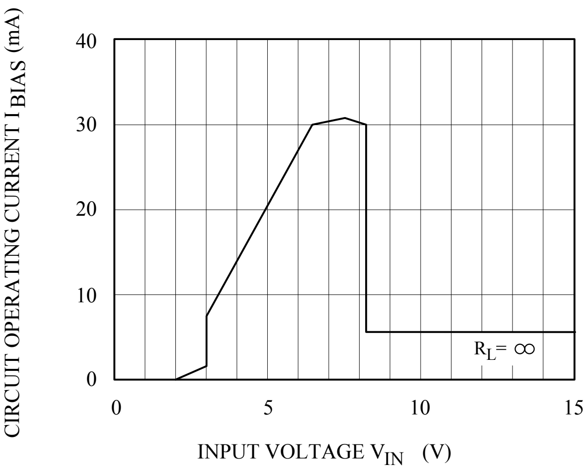


Fig.7-4 V_{IN} - I_{BIAS} (KIA78R09)

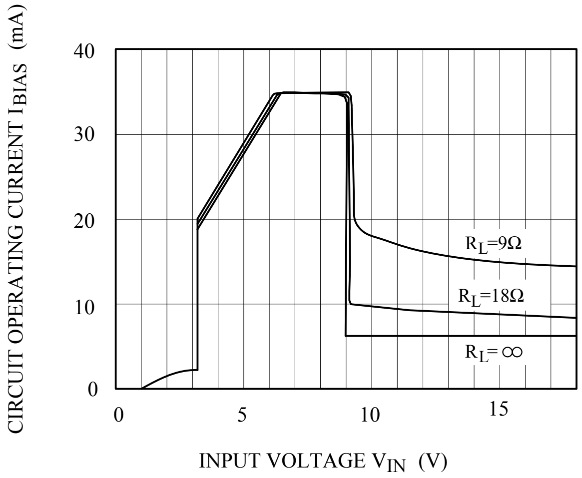


Fig.7-5 V_{IN} - I_{BIAS} (KIA78R10)

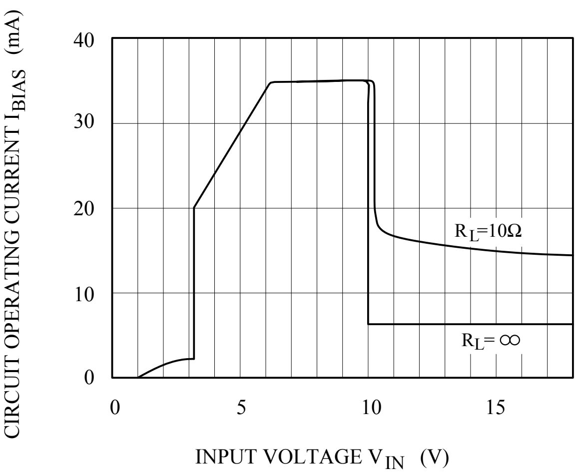


Fig.7-6 V_{IN} - I_{BIAS} (KIA78R12)

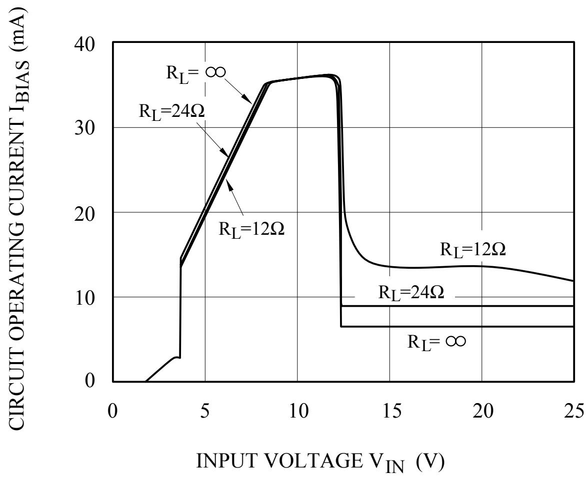


Fig.7-7 V_{IN} - I_{BIAS} (KIA78R15)

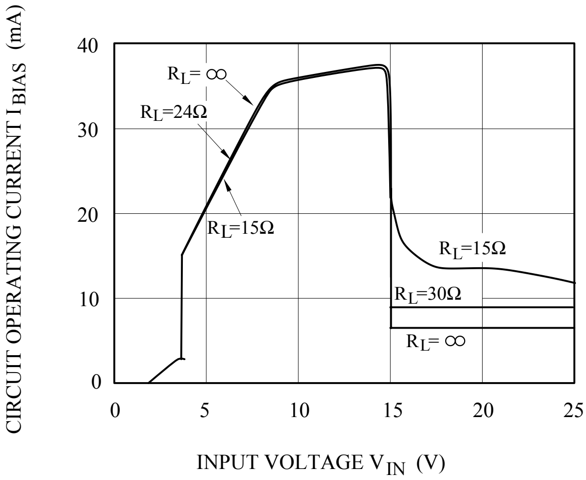


Fig.8 T_j - V_D

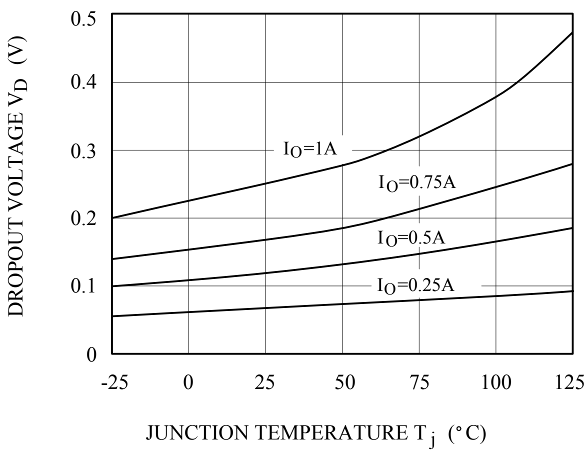


Fig.9 T_j - I_q

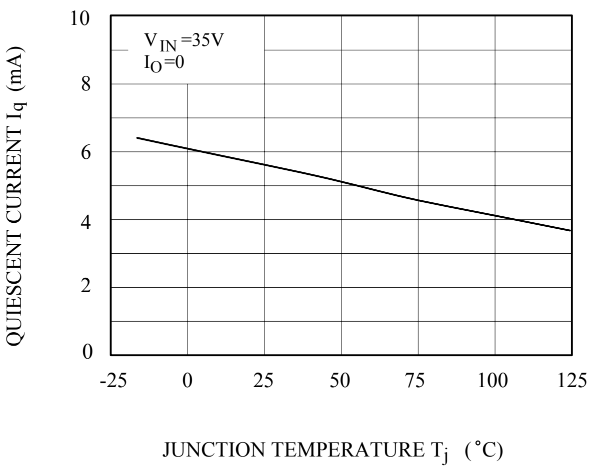


Fig. 10-1 f - RR

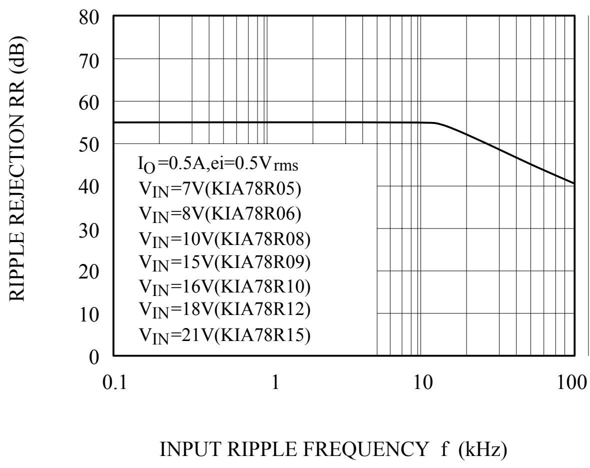


Fig.10-2 I_O - RR

